

Attachment C

Long Term Care Model(s) and Assumptions

Model(s)

Projection results are based on a projection of 173,870 policies inforce as of 6/30/06 from business issued through 6/30/06. CalPERS LTC business consists of facility-only and comprehensive policies and includes a variety of elimination period/benefit period/inflation coverage combinations. A summary of the model cells we used for projection purposes has been included as Attachment E.

Please note that we combined policy information for each potential model cell for which there were few inforce policies into a projection model cell that had the most similar benefit design.

Actually, projection results for each cell reflect output from three different models. The first model generates base policy projections, the second generates premium waiver projections, and the third generates return-of-premium benefit projections. Given that the first two models are built from the same model chassis and the relative insignificance of waiver-of-premium and return-of-premium benefits as compared to base policy benefits, the remainder of this attachment will focus on the base policy benefit models. Please note that the assumptions used for the latter two models are consistent with those used in the corresponding base policy projections.

Inforce Business as of 6/30/06 - Distributions of Business

The following distributions of business for all business inforce as of 6/30/06 are included in Attachment F:

- By benefit period and elimination combination
- By issue-age and attained-age
- By plan
- By inflation option
- By gender
- By marital status
- By premium mode
- By underwriting type

Please let me know if you would like to see any additional detail relating to the 6/30/06 inforce business.

Assumptions

Please note that detailed assumption printouts can be readily generated from each model for every model cell. The following subsections discuss the various assumptions used and include summaries of assumptions used throughout all of the model cells.

Morbidity

From a modeling standpoint, the following morbidity assumptions were used:

Ultimate Claim Costs - These vary by benefit design, gender and attained age, and were developed as described in this report.

Selection Factors – These vary by issue-age band, duration and underwriting type, and were developed as described in this report.

Claim Payment Distributions – These vary by age at claim incurral, benefit period and claim duration. As referenced previously, they were updated for this valuation to reflect emerging experience and were developed to be consistent with current liability/reserve levels.

Morbidity Improvement - Future morbidity improvement of 1% per year has been assumed to proceed 20 years from the valuation date. We also made a corresponding mortality improvement assumption.

Inflation Adjustment – Appropriate morbidity adjustments are made for policies with inflation protection.

Adjustments to Reflect Individuals Already on Claim – These vary by benefit period, issue age and duration. They are used to adjust the assumed claim costs to be on an exposure basis consistent with that used in the projection model.

Policy Terminations

We performed a study comparing inception-to-date actual total termination rates by issue-age band and duration to previous voluntary lapse rate and mortality assumptions.

Regarding assumed mortality, the following were used for all projection cells:

- 1994 GAM table along with 100% of projection scale AA.
- Selection factors by policy year as follows:
 - PY1: 0.39
 - PY2: 0.49
 - PY3: 0.57
 - PY4: 0.64
 - PY5: 0.67
 - PY6+: 0.71

Regarding assumed voluntary lapse rates, the following were used for all projection cells:

Issue Age	<u>PY 1</u>	<u>PY 2</u>	<u>PY 3</u>	<u>PY 4</u>	<u>PY 5</u>	<u>PY 6</u>	<u>PY 7</u>	<u>PY 8</u>	<u>PY 9+</u>
<40	4.70%	3.50%	2.90%	2.30%	1.80%	1.80%	1.80%	1.80%	1.80%
40-44	3.30%	2.30%	1.80%	1.40%	1.10%	1.10%	1.10%	1.10%	1.10%
45-49	3.30%	2.30%	1.80%	1.40%	1.10%	1.10%	1.10%	1.10%	1.10%
50-54	2.70%	1.90%	1.40%	1.00%	0.80%	0.70%	0.70%	0.70%	0.70%
55-59	2.70%	1.90%	1.40%	1.00%	0.80%	0.70%	0.70%	0.70%	0.70%
60-64	1.90%	1.10%	0.70%	0.50%	0.50%	0.40%	0.40%	0.40%	0.30%
65-69	1.90%	1.10%	0.70%	0.50%	0.50%	0.40%	0.40%	0.40%	0.30%
70-74	1.80%	0.70%	0.40%	0.40%	0.40%	0.40%	0.40%	0.40%	0.40%
75-79	1.80%	0.70%	0.40%	0.40%	0.40%	0.40%	0.40%	0.40%	0.40%
80-84	1.70%	1.60%	1.20%	1.10%	1.00%	1.00%	1.00%	1.00%	1.00%
85+	1.70%	1.60%	1.20%	1.10%	1.00%	1.00%	1.00%	1.00%	1.00%

In addition, lapse rates were increased to reflect claimants that exhaust limited benefit periods.

Expenses

We used the following expense assumptions:

- Regarding fixed dollar expenses:
 - We assumed that fixed LTCCG administrative fees would be \$131,100.10 per month and that CalPERS operational expenses would be \$100,000 per month through January 2007.
 - We increased these values by 3% in February of each year through 2012.
 - Beginning in February of 2013, we increased the prior year's fixed monthly expense by 3%, but then reduced it by the ratio of current premium to the prior year premium. The intent of this is to adjust for the fact that if the program volume declines, expenses will need to decline as well.
- LTCCG administrative fees of \$2.69 per member per month.
- LTCCG claim administrative fees equal to 3.78% of incurred claims.

All non-fixed-dollar expenses are also assumed to inflate at 3.0% per year.

Discount/Investment Rate

Regarding investment earnings, we assumed 7.79% on both assets and annual cash flows per the direction of the CalPERS Board.

Attachment D

CalPERS LTC Program Comparison of Actual and Projected Results For 7/1/05 thru 6/30/05

	<u>6/30/05 Valuation Projection Results</u>	<u>Actual Results</u>	<u>Actual Less Expected Dollar Differences</u>	<u>Actual/Expected Percentage Differences</u>
Actual Fund Balance as of 6/30/05:	1,510,832,813	1,510,832,813	-	0.00%
<u>Cash Flows from 7/05 thru 6/06</u>				
Premiums	246,281,322	244,334,688	(1,946,634)	-0.79%
Investment Income	123,857,706	128,999,773	5,142,067	4.15%
Claims	74,747,675	77,152,671	2,404,996	3.22%
Expenses	14,728,481	16,746,952	2,018,471	13.70%
Estimated Fund Balance as of 6/30/06: (Calculated from Values Above)	1,791,495,685	1,790,267,651	(1,228,034)	-0.07%
Actual Fund Balance as of 6/30/06:	1,789,606,485	1,789,606,485	-	0.00%
Estimated vs. Actual - Dollar Differences:	1,889,200	661,166	(1,228,034.00)	-65.00%
Estimated vs. Actual - Percentage Differences:	0.11%	0.04%		

Attachment E

CalPERS LTC Program
Summary of Model Cells Included in 6/30/2006 Projection

<u>Cell Name</u>	<u>Cell Description</u>	<u>Count</u>	<u>Annualized Premium</u>
LTC1_C3_LF	Comprehensive, 3 Yr BP, 90 Day EP, No Inflation, 50% HHC, 50% ALF, LF U/W	6,064	9,466,390
LTC1_C3_MGI	Comprehensive, 3 Yr BP, 90 Day EP, No Inflation, 50% HHC, 50% ALF, MGI U/W	1,520	1,066,647
LTC1_C3_SF	Comprehensive, 3 Yr BP, 90 Day EP, No Inflation, 50% HHC, 50% ALF, SF U/W	798	602,551
LTC1_C3i_LF	Comprehensive, 3 Yr BP, 90 Day EP, Inflation, 50% HHC, 50% ALF, LF U/W	6,502	10,771,595
LTC1_C3i_MGI	Comprehensive, 3 Yr BP, 90 Day EP, Inflation, 50% HHC, 50% ALF, MGI U/W	1,897	2,039,901
LTC1_C3i_SF	Comprehensive, 3 Yr BP, 90 Day EP, Inflation, 50% HHC, 50% ALF, SF U/W	1,111	1,257,709
LTC1_CL_LF	Comprehensive, Lifetime BP, 90 Day EP, No Inflation, 50% HHC, 50% ALF, LF U/W	11,968	19,182,802
LTC1_CL_MGI	Comprehensive, Lifetime BP, 90 Day EP, No Inflation, 50% HHC, 50% ALF, MGI U/W	6,856	5,076,326
LTC1_CL_SF	Comprehensive, Lifetime BP, 90 Day EP, No Inflation, 50% HHC, 50% ALF, SF U/W	3,304	2,550,792
LTC1_CLi_LF	Comprehensive, Lifetime BP, 90 Day EP, Inflation, 50% HHC, 50% ALF, LF U/W	40,785	73,884,419
LTC1_CLi_MGI	Comprehensive, Lifetime BP, 90 Day EP, Inflation, 50% HHC, 50% ALF, MGI U/W	23,465	29,309,611
LTC1_CLi_SF	Comprehensive, Lifetime BP, 90 Day EP, Inflation, 50% HHC, 50% ALF, SF U/W	12,257	16,024,226
LTC1_N3_LF	Facilities Only, 3 Yr BP, 90 Day EP, No Inflation, 50% ALF, LF U/W	4,181	4,763,101
LTC1_N3_MGI	Facilities Only, 3 Yr BP, 90 Day EP, No Inflation, 50% ALF, MGI U/W	565	313,823
LTC1_N3_SF	Facilities Only, 3 Yr BP, 90 Day EP, No Inflation, 50% ALF, SF U/W	297	180,507
LTC1_N3i_LF	Facilities Only, 3 Yr BP, 90 Day EP, Inflation, 50% ALF, LF U/W	3,407	4,727,792
LTC1_N3i_MGI	Facilities Only, 3 Yr BP, 90 Day EP, Inflation, 50% ALF, MGI U/W	836	708,593
LTC1_N3i_SF	Facilities Only, 3 Yr BP, 90 Day EP, Inflation, 50% ALF, SF U/W	556	516,392
LTC1_NL_LF	Facilities Only, Lifetime BP, 90 Day EP, No Inflation, 50% ALF, LF U/W	6,283	8,214,758
LTC1_NL_MGI	Facilities Only, Lifetime BP, 90 Day EP, No Inflation, 50% ALF, MGI U/W	1,020	644,984
LTC1_NL_SF	Facilities Only, Lifetime BP, 90 Day EP, No Inflation, 50% ALF, SF U/W	654	417,196
LTC1_NLi_LF	Facilities Only, Lifetime BP, 90 Day EP, Inflation, 50% ALF, LF U/W	11,947	19,715,720
LTC1_NLi_MGI	Facilities Only, Lifetime BP, 90 Day EP, Inflation, 50% ALF, MGI U/W	3,313	3,402,639
LTC1_NLi_SF	Facilities Only, Lifetime BP, 90 Day EP, Inflation, 50% ALF, SF U/W	2,221	2,377,425
LTC1_P1_LF	Partnership, 1 Yr BP, 30 Day EP, Inflation, 50% HHC, 50% ALF, LF U/W	1,817	2,109,931
LTC1_P1_MGI	Partnership, 1 Yr BP, 30 Day EP, Inflation, 50% HHC, 50% ALF, MGI U/W	432	267,057
LTC1_P1_SF	Partnership, 1 Yr BP, 30 Day EP, Inflation, 50% HHC, 50% ALF, SF U/W	189	118,498
LTC1_P2_LF	Partnership, 2 Yr BP, 30 Day EP, Inflation, 50% HHC, 50% ALF, LF U/W	2,990	4,430,059
LTC1_P2_MGI	Partnership, 2 Yr BP, 30 Day EP, Inflation, 50% HHC, 50% ALF, MGI U/W	874	742,374
LTC1_P2_SF	Partnership, 2 Yr BP, 30 Day EP, Inflation, 50% HHC, 50% ALF, SF U/W	482	394,238
LTC2_C3_LF	Comprehensive, 3 Yr BP, 90 Day EP, No Inflation, 50% HHC, 70% ALF, LF U/W	676	864,772
LTC2_C3i_LF	Comprehensive, 3 Yr BP, 90 Day EP, Inflation, 50% HHC, 70% ALF, LF U/W	992	1,682,466
LTC2_CL_LF	Comprehensive, Lifetime BP, 90 Day EP, No Inflation, 50% HHC, 70% ALF, LF U/W	2,637	2,717,191
LTC2_CLi_LF	Comprehensive, Lifetime BP, 90 Day EP, Inflation, 50% HHC, 70% ALF, LF U/W	5,523	10,839,810
LTC2_N3_LF	Facilities Only, 3 Yr BP, 90 Day EP, No Inflation, 70% ALF, LF U/W	180	172,459
LTC2_N3i_LF	Facilities Only, 3 Yr BP, 90 Day EP, Inflation, 70% ALF, LF U/W	149	202,884
LTC2_NL_LF	Facilities Only, Lifetime BP, 90 Day EP, No Inflation, 70% ALF, LF U/W	410	408,559
LTC2_NLi_LF	Facilities Only, Lifetime BP, 90 Day EP, Inflation, 70% ALF, LF U/W	795	1,220,964
LTC2_P1_LF	Partnership, 1 Yr BP, 30 Day EP, Inflation, 50% HHC, 70% ALF, LF U/W	94	99,636
LTC2_P2_LF	Partnership, 2 Yr BP, 30 Day EP, Inflation, 50% HHC, 70% ALF, LF U/W	233	357,188
LTC3_C3_LF	Comprehensive, 3 Yr BP, 90 Day EP, No Inflation, 70% HHC, 70% ALF, LF U/W	300	343,755
LTC3_C3i_LF	Comprehensive, 3 Yr BP, 90 Day EP, Inflation, 70% HHC, 70% ALF, LF U/W	399	781,229
LTC3_C6_LF	Comprehensive, 6 Yr BP, 90 Day EP, No Inflation, 70% HHC, 70% ALF, LF U/W	415	513,753
LTC3_C6i_LF	Comprehensive, 6 Yr BP, 90 Day EP, Inflation, 70% HHC, 70% ALF, LF U/W	744	1,616,028
LTC3_CL_LF	Comprehensive, Lifetime BP, 90 Day EP, No Inflation, 70% HHC, 70% ALF, LF U/W	508	820,583
LTC3_CLi_LF	Comprehensive, Lifetime BP, 90 Day EP, Inflation, 70% HHC, 70% ALF, LF U/W	683	2,170,049
LTC3_N3_LF	Facilities Only, 3 Yr BP, 90 Day EP, No Inflation, 70% ALF, LF U/W	67	73,087
LTC3_N3i_LF	Facilities Only, 3 Yr BP, 90 Day EP, Inflation, 70% ALF, LF U/W	63	103,634
LTC3_N6_LF	Facilities Only, 6 Yr BP, 90 Day EP, No Inflation, 70% ALF, LF U/W	73	87,369
LTC3_N6i_LF	Facilities Only, 6 Yr BP, 90 Day EP, Inflation, 70% ALF, LF U/W	84	155,299
LTC3_NL_LF	Facilities Only, Lifetime BP, 90 Day EP, No Inflation, 70% ALF, LF U/W	83	95,356
LTC3_NLi_LF	Facilities Only, Lifetime BP, 90 Day EP, Inflation, 70% ALF, LF U/W	120	270,566
LTC3_P1_LF	Partnership, 1 Yr BP, 30 Day EP, Inflation, 70% ALF, LF U/W	11	17,339
LTC3_P2_LF	Partnership, 2 Yr BP, 30 Day EP, Inflation, 70% ALF, LF U/W	40	83,105
Total		173,870	250,975,138

<u>Abbreviation</u>	<u>Description</u>
BP	Benefit Period
EP	Elimination Period
ALF	Assisted Living Facility
HHC	Home Health Care
LF U/W	Long Form Underwriting
MGI U/W	Modified Guaranteed Issue Underwriting
SF U/W	Short Form Underwriting

Attachment F

CalPERS LTC Program
Distributions of Business Inforce as of 6/30/06

By Benefit Period and Elimination Period

<u>Benefit Period</u>	<u>Elimination Period</u>	<u>Count</u>
1 Year	30 Day	2,543
2 Year	30 Day	4,619
3 Year	90 Day	30,560
6 Year	90 Day	1,316
Lifetime	90 Day	134,832
Total		173,870

By Issue-Age Band and Gender

<u>Issue-Age Band</u>	<u>Females</u>	<u>Males</u>
27	589	336
36	5,148	3,144
42	6,759	3,781
47	12,425	7,031
52	18,449	11,282
57	20,152	13,715
62	16,997	13,438
67	11,875	9,538
72	7,422	5,116
77	3,278	1,918
81	863	415
86	138	47
91	8	5
98	1	-
Total	104,104	69,766
Grand Total		173,870

By Attained Age and Gender

<u>Attained Age</u>	<u>Females</u>	<u>Males</u>
27	16	7
28	27	15
29	32	19
30	78	51
31	72	42
32	81	53
33	65	34
34	51	27
35	38	23
36	151	100
37	232	127
38	248	169
39	500	332
40	572	378
41	541	326
42	545	346
43	595	372
44	929	529
45	1,431	819
46	1,217	717
47	1,106	683
48	930	495
49	1,089	608
50	2,055	1,114
51	2,283	1,248
52	2,421	1,308
53	1,940	1,088
54	1,905	1,108
55	3,229	1,982
56	3,905	2,375
57	3,962	2,464
58	2,838	1,864
59	2,575	1,672
60	4,574	2,896
61	4,332	2,831
62	4,263	2,806
63	2,629	1,894
64	2,575	1,857
65	3,827	2,721
66	4,331	2,879
67	4,028	2,751
68	1,772	1,467
69	1,803	1,483
70	2,992	2,356
71	3,551	2,878
72	4,374	3,091
73	1,062	954
74	1,233	1,036
75	2,195	1,700
76	2,623	2,020
77	3,814	2,940
78	613	427
79	854	517
80	1,428	930
81	1,701	1,116

Attachment F

CalPERS LTC Program
Distributions of Business Inforce as of 6/30/06

82	2,404	1,702
83	352	203
84	403	217
85	586	364
86	658	421
87	782	492
88	137	69
89	115	76
90	178	64
91	162	77
92	18	5
93	13	5
94	20	12
95	17	9
96	20	5
98	3	-
99	1	-
100	1	-
103	1	-
Total	104,104	69,766
Grand Total		173,870

By Plan Type

<u>Plan Type</u>	<u>Count</u>
Partnership (Comprehensive)	7,162
Comprehensive	129,404
Facilities Only	37,304
Total	173,870

By Inflation

<u>Inflation</u>	<u>Count</u>
No Inflation	48,859
Inflation	125,011
Total	173,870

By Marital Status

<u>Marital Status</u>	<u>Gender</u>	<u>Count</u>
Married	F	64,625
Married	M	56,181
Divorced	F	14,458
Divorced	M	4,181
Single	F	11,861
Single	M	5,912
Widowed	F	12,434
Widowed	M	2,515
Unknown	F	720
Unknown	M	971
Separated	F	6
Separated	M	6
Total		173,870

By Premium Mode

<u>Premium Mode</u>	<u>Count</u>
Monthly	131,646
Quarterly	32,486
Semi-Annually	5,641
Annually	4,097
Total	173,870

By Underwriting Type

<u>Underwriting Type</u>	<u>Count</u>
LF	111,223
MGI	40,778
SF	21,869
Total	173,870

By Product Series

<u>Product Series</u>	<u>Count</u>
LTC 1	158,591
LTC 2	11,689
LTC 3	3,590
Total	173,870